

WHAT IS CLAIMED IS:

1. An OLED display device, comprising:
 - a) a substrate;
 - b) an array of OLED elements formed on the substrate, the OLED
 - 5 elements defining an optical cavity for reducing the angle of emission of light from the OLED elements;
 - c) an encapsulating cover disposed over the OLED elements; and
 - d) the display device being viewed through the substrate and/or the cover
 - and wherein the substrate and/or the cover through which the display is viewed is
 - 10 a fiber-optic faceplate, whereby the apparent sharpness of the display device is improved.
2. The OLED display device claimed in claim 1, wherein the
- 15 OLED elements comprise a first electrode; one or more layers of light emitting organic material formed on the first electrode; an electrode formed on the one or more layers of organic material; and wherein one of the electrodes is reflective and the other is partially reflective, and the electrodes being spaced apart by a sufficient distance to define an optical cavity in which light emitted from the
- 20 organic material through the partially reflective electrode has a reduced angle of emission;
3. The device claimed in claim 1, wherein the fiber-optic faceplate is the substrate of the device, light is emitted through the substrate, and the cover is opaque or reflective.
- 25 4. The device claimed in claim 1, wherein the fiber-optic faceplate is the cover of the device, light is emitted through the cover, and the substrate is opaque or reflective.
- 30 5. The device claimed in claim 4, wherein a gap between the cover and the OLED elements is filled with transparent material.

6. The device claimed in claim 1, wherein the fiber-optic faceplate is flat on the side adjacent the OLED elements and the opposite side is not parallel to the flat side.

5 7. The device claimed in claim 6, wherein the opposite side of the fiber-optic faceplate is curved.

8. The device claimed in claim 1, wherein the fiber optic face plate is an image magnifying fiber optic face plate.

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9. The device claimed in claim 8, wherein the fiber optic face plate enlarges the image of the device.

10. The device claimed in claim 8, wherein the fiber optic face plate reduces the image of the device.

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11. The device claimed in claim 1, wherein the fiber optic face plate includes one fiber per OLED element.

12. The device claimed in claim 1, wherein the OLED elements are arranged in groups of elements, and the fiber optic face plate includes one fiber per group of elements.

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13. The device claimed in claim 12, wherein the OLED elements in the groups are differently colored elements.

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14. The device claimed in claim 1, wherein the face plate is a tapered face plate having a smaller light receiving surface and a larger light emitting surface.

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15. The device claimed in claim 14, wherein the device is included in a tiled display including an array of such devices, and wherein edges of the light emitting surfaces of the face plates are abutting.

5 16. The OLED display device claimed in claim 2, wherein the partially reflective electrode further comprises a transparent conductor and a partially reflective mirror.

10 17. The device claimed in claim 2, wherein the first electrode is reflective, the second electrode is partially reflective, and the display device is a top-emitting display device.

15 18. The device claimed in claim 2, wherein the first electrode is partially reflective, the second electrode is reflective, and the display device is a bottom emitting display device.

19. The device claimed in claim 1, wherein the light emitted is coherent.

20 20. The device claimed in claim 1, wherein the light emitted is incoherent.